

Application No.: 10/726900

Case No.: 58770US002

REMARKS

Claims 1 to 20 are pending in this application. Claims 1-8, 11, 12, and 15-20 stand rejected under §102 and/or §103. Claims 9, 10, 13, and 14 have been objected to by the Examiner as depending on a rejected base claim, but would otherwise be allowable if rewritten in independent form. By this amendment, claim 1 has been amended. Applicants respectfully request reconsideration of the rejected claims in view of the amendment and the following remarks.

Amendment

Claim 1 has been amended to recite that the interior portion of the membrane elements comprises a plurality of flow channels. Support for this amendment can be found on pages 10-11 and FIG 1A of the specification. No new matter is added by this amendment.

§ 102 Rejections

Claims 1-6, 15 and 18 stand rejected under 35 USC § 102(b) as being anticipated by Thompson et al. (U.S. Patent No. 5,104,532). Claims 1-8, 15 and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Wataya et al. (U.S. Patent No. 5,651,889). Applicants respectfully traverse these rejections as applied to the amended version of the claims.

Thompson et al.

The Thompson reference describes a flat stack permeator useful for dialysis, ultrafiltration, reverse osmosis, and similar functions. The Thompson permeator comprises a multitude of membrane layers alternately separated by feed-retentate spacers and permeate spacers. As shown in FIG. 1 of Thompson, the membrane sheets (1) are folded around a spacer (2) to define a closed area. A manifolding means (10) is separated from the stack of membrane sheets by a baffle plate and screen (11).

Although the membrane sheet element (1) described in Thompson is folded so as to define a closed area, i.e. the area of feed-retentate flow (8), it does not have a plurality of flow channels within the actual membrane sheet element itself, i.e. a plurality of internal spaces that

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are located inside the membrane sheet element (1). By comparison, FIGs. 1 and 1A of the present specification show how the membrane elements (2) of the present invention have interior spaces (18), i.e. flow channels, inside of the membrane element that are in fluid connection with the manifold. Since the prior art lacks a plurality of flow channels inside the membrane element, the references fails to anticipate to amended version of claim 1.

Wataya et al.

Wataya describes a membrane plate (shown as 102 in FIG. 1 of Wayata) that consists of a membrane support member (103) and flat membranes (104) that are attached to both faces of the membrane support member (103). Wataya teaches that the membrane plates are "removably fixed" to the frame. Specially, Wataya teaches "a plurality of membrane plates 102 are disposed within the frame 101 and are removably fixed thereto." (Col. 5, lines 13-15). In contrast, instant claim 1 recites that the membrane elements of the present invention are "permanently attached" to a primary manifold. As depicted in FIG. 5 and described on pages 13-14 of the present specification, the membrane elements may be permanently attached with, for example, a sealant, adhesive, potting compound or similar means for permanently securing the membrane elements to the manifold so as to provide a substantially water-tight seal. Since the Wataya membrane plates are not permanently attached to a primary manifold, this reference fails to anticipate claim 1, or claims 2-8, 15 and 18, all of which which are directly or indirectly dependent on claim 1. See *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (holding that a patent claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference.)

§ 103 Rejections

Claims 11, 12, 16, 17, 19 and 20 stand rejected under 35 USC § 103(a) as being unpatentable over either Thompson et al. or Wataya et al. in view of Sirkar. The claims rejected under § 103 are dependent on claim 1. The Examiner asserts that the additional limitations recited in these dependent claims are taught by Sirkar, i.e. in the Examiner's view, these claims merely represent the combination of an "obvious" addition taught by Sirkar to a previous base claim (e.g. claim 1) that reads on Thompson or Wataya. However, since independent claim 1 is

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patentable over the Thompson and Wataya references for the reasons discussed above, claims 11, 12, 16, 17, 19 and 20 are likewise patentable, even if, as the Examiner asserts, Sirkar teaches the additional limitations recited in these claims.

Provisional Double Patenting Rejection

The Examiner has provisionally rejected claim 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 and 11 of copending Application No. 10/438,090. The Examiner points out that this rejection may be overcome by filing a terminal disclaimer. Since this is a provisional rejection, Applicants will decide whether or not to file a terminal disclaimer once the application is otherwise in condition for allowance.

Allowable Subject Matter

Applicants appreciate the Examiner's indication that claims 9, 10, 13, and 14 contain allowable subject matter. The Examiner has objected to these claims as being dependent on a rejected base claim. Since the base claims are patentable for the reasons discussed above, this objection may be withdrawn.

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Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Reconsideration of the application is requested.

All communications in this case should be direct to the undersigned. If the Examiner believes a telephone discussion would be helpful to resolve any of the outstanding issue in this case, the Examiner is encouraged to call the undersigned at the number listed below.

Respectfully submitted,

Sept. 28, 2005
Date

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